

(c) a plurality of reaction zones separated by the heat exchanger panels but in fluid communication with one another via the heat exchanger panels, and forming thereby a segmented production flow path; and

(d) baffles located within each reaction zone, wherein each of the baffles extends from a heat exchanger surface of an associated one of the heat exchanger panels to define a boundary for the associated reaction zone and to cause the production flow path to extend between a central part of the reactor to an outer peripheral part thereof.

12. (Amended) A reactor according to claim 11, wherein the configuration of the production flow path is that of a spiral.

13. (Amended) A reactor according to claim 11, further comprising two concentric catalyst containment screens, between which a reaction zone is contained.

---

B<sup>2</sup> 22. (Amended) A reactor comprising:

(a) a containment shell;

(b) a plurality of heat exchanger panels that are spaced circumferentially around a longitudinal axis of the containment shell so as to form reaction zones therebetween, wherein each of the heat exchanger panels comprises a printed circuit heat exchange PCHE plate;

(c) a plurality of catalyst beds that are disposed in the reaction zones; and

(d) a plurality of baffles that are located in the containment shell to form at least one flow path in the catalyst beds, wherein the flow path contains a plurality of segments that are bounded by the panels and that are connected with one another via passageways in the panels, and wherein additional passageways are formed in the panels for the passage of a heat exchange medium therethrough.

B<sup>3</sup> 27. (Amended) A reactor according to claim 26, wherein the additional passageways open into an inlet of the flow path, thereby permitting feed reactants to be used as the heat exchange medium.

B<sup>4</sup> 29. (Amended) A reactor comprising:  
(a) a cylindrical containment shell;  
(b) a plurality of heat exchanger panels that are spaced around a central axis of the containment shell so as to form reaction zones therebetween, that extend radially relative to the central axis, and that have passageways formed therethrough, wherein each of the heat exchanger panels comprises a printed circuit heat exchange (PCHE) plate;  
(c) a plurality of catalyst beds that are disposed in the reaction zones; and  
(d) a plurality of baffles that are located in the containment shell to form at least one generally spiral flow path having a radially inner inlet end and a radially outer outlet end, wherein the flow path contains a plurality of segments that are bounded by the panels and that are connected to one another by the passageways in the panels, and wherein additional passageways are formed radially through the panels for the flow of a heat exchange medium therethrough.

30. (Amended) The reactor according to claim 29, wherein outlets of the additional passageways are in fluid communication with the inlet of the flow path, thereby permitting feed reactants to be used as the heat exchange medium.

B<sup>5</sup> 32. (Amended) A method comprising:  
(a) directing reactants at least generally circumferentially of a reactor through at least one flow path in catalyst beds in the reactor, the flow path being segmented by baffles;  
(b) as the reactants flow through the flow path, directing the reactants through passages in heat exchanger panels that bound reaction zones within the reactor and that bound ends of flow path segments making up the flow path, wherein each of the heat exchanger panels comprises a printed circuit heat exchange (PCHE) plate and

(c) directing a heat exchange medium through additional passageways in the panels to alter the temperature of the reactants flowing through the passageways.

---

Please add new claims 36 and 37 as follows:

---

BF 36. (New) A reactor according to claim 11, wherein the configuration the production flow path is substantially that of a spiral

37. (New) A reactor according to claim 11, further comprising two catalyst containment screens, between which a reaction zone is contained.

---

#### REMARKS

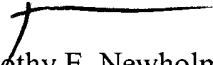
Entry of the amendments is respectfully requested. Claims 11-13, 22, 27, 29, 30, and 32 have been amended, and new claims 36 and 37 have been added, to more positively claim and distinctly recite that which applicant regards as his invention. Claims 11-37 are pending in the application.

CONCLUSION

A check for \$36 is enclosed in payment of the fee associated with the submission of 2 additional claims in excess of 20 by a large entity. No other fees are believed to be payable with this communication. Nevertheless, should the Examiner consider any other fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

The application is now ready for examination on the merits. Early notification of such action is earnestly solicited.

Respectfully submitted,

  
Timothy E. Newholm  
Registration No. 34,400

Dated: August 3, 2001  
BOYLE FREDRICKSON NEWHOLM  
STEIN & GRATZ S.C.  
250 Plaza, Suite 1030  
250 East Wisconsin Avenue  
Milwaukee, WI 53202  
Telephone: (414) 225-9755  
Facsimile: (414) 225-9753